CW#129: Reflections in the Coordinate Plane

Geometry

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP:\_\_\_\_\_

Complete the following problems on a separate piece of graph paper or in your geometry notebook, and attached it to your classwork.

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| --- | --- | --- | --- | --- | --- |
| 1. List three places in the real world where do you see reflections. Write a sentence, make a bulleted list, or draw pictures. | | | 1. PREDICT  a) Graph the line y=x.  b) Suppose you reflected the point A(-6,5) over the line y=x. Predict the image of the point and label it Ap.  c) Suppose you reflected the point B(-2,3) over the line y=x. Predict the image of the point and label it Bp. | | |
| 1. a) Graph and label the coordinate on the grid below. D(3,-1)  ../../../../Math%20Materials%20-%20KMR/Images/Coordinate_Grid_XYAxis.PNG b) Reflect point D over the line y=x and label it D’. | | | |  | | --- | | Graph and label the following coordinates on the grid below. P(3,2). ../../../../Math%20Materials%20-%20KMR/Images/Coordinate_Grid_XYAxis.PNG |  1. *Identify* and *correct* the student error below. Describe why this is an error.   TO DO: DRAW IN STUDENT WORK | | |
| Directions: Reflect the following coordinates over the line y=x (Label points and coordinates). Show the graph of each pre-image and image on your graph paper. | | | | | |
| 1. G(1,1) | | 1. R(-5,1) | | 1. K(2,2) | |
| 1. B(-2,-3) | | 1. D(1,-4) | | 1. Q(-1,-4) | |
| 1. *I*(-2,-2) | | 1. Y(3,-3) | | 1. A(4,-4) | |
| 1. Describe the relationship between the x and y coordinates of the pre-image and the image of each coordinate you reflected over y=x. | | | | | |
| SILVER | | | | | |
| Directions: Find the area of the pre-image triangle. Reflect the triangle over the line y=x and find the area of the image triangle. | | | | | |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%203.40.34%20PM | | | 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%203.40.50%20PM | | |
| Area of pre-image Δ | Area of image Δ | | Area of pre-image Δ | | Area of image Δ |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%203.40.57%20PM | | | 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%203.41.01%20PM | | |
| Area of pre-image Δ | Area of image Δ | | Area of pre-image Δ | | Area of image Δ |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%203.41.07%20PM | | | 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%203.41.20%20PM | | |
| Area of pre-image Δ | Area of image Δ | | Area of pre-image Δ | | Area of image Δ |

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| 1. Below is a conversation between two students.   Student A: “I think that when you reflect a triangle over the line y=x, the area will change since the coordinates change.”  Student B: “I disagree, when you reflect a triangle over the line y=x, the shape and size stay the same so the area must stay the same.”   With which student do you agree? Explain and use your graphs from the previous page to support your answer. | |
| GOLD | |
| 1. Lisa makes an octagon by successively folding a square piece of paper as follows. First, she folds the square in half vertically and horizontally and also along both diagonals leaving these creases:  ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.26.42%20PM  Next, Lisa makes four more folds, identifying each pair of adjacent lines of symmetry for the square used for the folds in the first step: ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.26.45%20PM  Finally Lisa folds the four corners of her shape along the red creases marked below:  ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.26.49%20PM | Using prior knowledge about polygons and symmetry, explain why the shape Lisa made is a regular octagon. |

DO NOT WORK ON HOMEWORK UNTIL INSTRUCTED BY TEACHER. IF YOU ARE WORKING ON HOMEWORK WITHOUT INSTRUCTION TO DO SO YOU WILL RECEIVE A LASALLE. Finished the classwork early and ready to move on before teacher has instructed? Raise your hand!

HW#129: Reflections in the Coordinate Plane

Geometry  
Due: Friday, May 20th

SHOW ALL WORK, FOLLOW ALL DIRECTIONS, AND COMPLETE ALL PROBLEMS IN ORDER TO AVOID A LASALLE!

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| Directions: Reflect the following coordinates over the line y=x (Label points and coordinates). Show the graph of each pre-image and image on your graph paper. | | | |
| 1. E(3,-4) | | 1. C(0,-2) | |
| 1. F(-4,0) | | 1. R(5,0) | |
| Directions: Find the area of the pre-image triangle. Reflect the triangle over the line y=x and find the area of the image triangle. | | | |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.36.28%20PM | | 1. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.36.33%20PM | |
| Area of pre-image Δ | Area of image Δ | Area of pre-image Δ | Area of image Δ |
| 7. ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.36.37%20PM | | 8.  ../../../../../Desktop/Screen%20Shot%202016-05-15%20at%206.38.18%20PM | |
| Area of pre-image Δ | Area of image Δ | Area of pre-image Δ | Area of image Δ |